

NetMetal series

The NetMetal is a solid and waterproof outdoor device. It has a high power wireless interface, and one Gigabit Ethernet connector, which support MDI-X auto detection. The device has two or three RP-SMA connectors for connecting external antennas (depends on model). The device is packaged with a 24 V power adapter, a PoE injector and two mounting loops. There are four models available – two Three-chain devices (with miniPCIe slot and without), and two Dual-chain models (with miniPCIe slot and without). Extra places for more RP-SMA connectors are available on the unit in this case.

First use

1. Remove the lid, and connect the antenna to the RP-SMA connectors. Bend the cable with a large radius, so that it will be able to exit through the cable openings in the bottom of the lid. Put the lid back.
2. Open the product bottom door, to reveal the Ethernet connector.
3. The device accepts 12-28 V Passive PoE from a PoE injector (please compensate voltage for loss due to cable length)
4. The default IP address from Ether1 is 192.168.88.1 for configuration, username is admin and there is no password.
5. Depending on the antenna used, you must set its gain in the RouterOS software to ensure that EIRP meets the limit set by the local authorities. This is done in the Wireless menu.
6. If your unit comes equipped with a spare miniPCIe slot (depends on model), open the NetMETAL case to install the additional miniPCIe card. There are places for extra RP-SMA cables in the top of the device, you will use a 6.5mm drill to open up the places for the extra RP-SMA cables in the marked locations.

Mounting

To tighten the device to a pole, use the provided metal hose clamp. Guide the loop around the device through the provided holes, and around the pole where it will be mounted. You should avoid connecting a loose Ethernet cable to the Ethernet port—secure the cable to a wall or the pole, so that the cable weight is not pulling the port. It is recommended to secure the Ethernet cable less than 2 m from the device. This is to ensure that the cable doesn't damage the port by its weight, or doesn't fall out. It is possible to connect grounding wires to the PCB board mounting holes, but to do this, you must remove the PCB from the case.

Powering

The ethernet port accepts passive Power over Ethernet 8-30 V DC. Package contains a 24 V adapter and a PoE injector. Maximum power consumption of the device is 21 W at 24 V.

Configuration

The device is configured as a wireless access point, with the ethernet port configured as a DHCP client, for connecting to your ISP router or switch. A DHCP server is configured on the wireless interface.

RouterOS includes many configuration options in addition to what is described in this document. We suggest to start here to get yourself accustomed to the possibilities: <http://mt.lv/help>.

In case IP connection is not available, the Winbox tool (<http://mt.lv/winbox>) can be used to connect to the MAC address of the device from the LAN side (all access is blocked from the internet port by default).

Expansion Slots and Ports

- Built in 5GHz 802.11ac/a/n wireless, AP/station/bridge modes supported (for CPE, AP, PtP modes)
- One 10/100/1000 Gigabit Ethernet port, supporting automatic cross/straight cable correction (Auto MDI/X), so you can use either straight or crossover cable for connecting to other network devices. The Ethernet port accepts 8-30 V DC powering from a passive PoE injector.
- One USB 2.0 or 3.0 port (depends on model) for extra storage or 3G/4G modem

Buttons and Jumpers

The reset button has three functions:

- Hold this button during boot time until LED light starts flashing, release the button to reset RouterOS configuration (total 5 seconds).
- Keep holding for 5 more seconds, LED turns solid, release now to turn on CAPs mode for managing the unit from a CAPsMAN server (total 10 seconds).
- Or Keep holding the button for 5 more seconds until until LED turns off, then release it to make the RouterBOARD look for Netinstall servers (total 15 seconds).

Operating System Support

The device supports RouterOS software with the version number at or above what is indicated in the RouterOS menu `/system resource`. Other operating systems have not been tested.

We recommend clicking the “Check for updates” button and updating your RouterOS software to the latest version to ensure the best performance and stability.

Federal Communication Commission Interference Statement

FCC ID: TV7RB922-5HPACT, TV7RB921-5SHPACT, TV7A21GS-5HPACD. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.

IMPORTANT: Exposure to Radio Frequency Radiation. This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

Antenna Installation. WARNING: It is installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance to FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required of equipment with connectors to ensure compliance with health and safety issues.

LIST OF APPROVED 2GHz ANTENNAS:

- 24 dBi Dish DC 24-HD-PFIP
- 20 dBi Panel WLP-2450-20
- 17 dBi Sector SA 24-90-17-WB
- 15 dBi Omni Directional (pole) WL0-2450-15
- 13 dBi Omni Directional (hor. Polarization) HP, 0DH 24-13

LIST OF APPROVED 5GHz ANTENNAS:

- 8.5 dBi Omni MTI Wireless MT-482016NA
- 24 dBi Panel Pacific Wireless PA58-24
- 32 dBi Dish Pacific Wireless HDDA5W-32-DP

Antennas of same type and lower gain than those listed above may be used in compliance with certification.

CE Declaration of Conformity

Full Declaration of Conformity (DoC) may be obtained by visiting our product page on <https://mikrotik.com>
Manufacturer: Mikrotikls SIA, Brivibas gatve 214i Riga, Latvia, LV1039.



Maximum Output Power (EIRP) in the frequency range 2412-2472 MHz is 20 dBm and in 5150-5250, 5250-5350 and 5470-5725 MHz ranges it is 23/20/27 dBm (only for applicable models).

EN	Hereby, Mikrotikls SIA declares that this routerboard is in compliance with the essential requirements and other relevant provisions of directive 2014/53/ec.
BG	С настоящето, Mikrotikls SIA декларира, че routerboard е в съответствие със съществените изисквания и другите приложими разпоредби на директива 2014/53/ec.
CZ	Mikrotikls SIA tímto prohlašuje, že routerboard splňuje základní požadavky a všechna příslušná ustanovení směrnice 2014/53/es.
DK	Undertegnede Mikrotikls SIA erklærer herved, at følgende udstyr routerboard overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/ef.
DE	Hiermit erklärt Mikrotikls SIA dass sich das gerät routerboard in übereinstimmung mit den grundlegenden anforderungen und den übrigen einschlägigen bestimmungen der richtlinie 2014/53/eg befindet.
EE	Käesolevaga kinnitab Mikrotikls SIA seadme routerboard vastavust direktiivi 2014/53/eü põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
GR	Με την παρούσα ο κατασκευαστής Mikrotikls SIA δηλώνει ότι routerboard συμμορφώνεται προς τις ουσιώδεις απαιτήσεις και τις λοιπες σχετικές διατάξεις της οδηγίας 2014/53/εκ
ES	Por la presente, Mikrotikls SIA declara que este routerboard cumple con los requisitos esenciales y otras exigencias relevantes de la directiva 2014/53/ec.
IT	Con la presente Mikrotikls SIA dichiara che questo routerboard è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/ce.
LV	Ar šo Mikrotikls SIA deklarē, ka routerboard atbilst direktīvas 2014/53/ek būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
LT	Šiuo Mikrotikls SIA deklaruoja, kad šis routerboard atitinka esminius reikalavimus ir kitas 2014/53/eb direktyvos nuostatas
HU	A Mikrotikls SIA ezzenel kijelenti, hogy a routerboard típusú beren-dezés teljesíti az alapvető követelményeket és más 2014/53/ek irányelvben meghatározott vonatkozó rendelkezéseket.
NL	Hierbij verklaart Mikrotikls SIA dat het toestel I routerboard in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/eg.
PL	Niniejszym Mikrotikls SIA deklaruje że routerboard jest zgodny z zasadniczymi wymaganiami i innymi właściwymi postanowieniami dyrektywy 2014/53/ec.
PT	Eu, Mikrotikls SIA declaro que o routerboard cumpre os requisitos essenciais e outras provisões relevantes da directiva 2014/53/ec.
RO	Prin prezenta, Mikrotikls SIA declară că aparatul routerboard este în conformitate cu cerințele esențiale și cu alte prevederi pertinente ale directivei 2014/53/ce.
SL	Mikrotikls SIA tímto vyhlasuje, že routerboard splňa základné požiadavky a všetky príslušné ustanovenia smernice 2014/53/es.
SI	Mikrotikls SIA izjavlja, da je ta routerboard v skladu z bistvenimi zahtevami in drugimi relevantnimi določili direktive 2014/53/es.
FI	Mikrotikls SIA vakuuttaa täten että routerboard tyyppinen laite on direktiivin 2014/53/ey oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
SE	Härmed intygar Mikrotikls SIA att denna routerboard är i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/eg.
NO	Mikrotikls SIA erklærer herved at routerboard er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/ef.

EN. Instruction manual: Connect the power adapter to turn on the device. Open 192.168.88.1 in your web browser, to configure it. More information on <http://mt.lv/help>
БГ. Инструкции: Свържете адаптера на захранване, за да включите устройството. Отворете 192.168.88.1 в уеб браузър, за да настроите продукта. Повече информация в <http://mt.lv/help>
CZ. Návod k použití: Připojte napájecí adaptér k zapnutí přístroje. Otevřete 192.168.88.1 ve webovém prohlížeči pro konfiguraci produktu. Více informací najdete v <http://mt.lv/help>
DK. Instruktionsbog: Tilslut strømadapteren for at tænde for enheden. Åbn 192.168.88.1 i en webbrowser til at konfigurere produktet. Mere information i <http://mt.lv/help>
FR. Mode d'emploi: Connectez l'adaptateur d'alimentation pour allumer l'appareil. Ouvrez 192.168.88.1 dans un navigateur Web pour configurer le produit. Plus d'informations dans <http://mt.lv/help>
DE. Bedienungsanleitung: Verbinden Sie das Netzteil, um das Gerät einzuschalten. Öffnen Sie 192.168.88.1 in einem Web-Browser, um das Produkt zu konfigurieren. Weitere Informationen im <http://mt.lv/help>
EE. Kasutusjuhend: Ühendage toiteadapter seadme sisselülitamiseks. Avatud 192.168.88.1 in veebilehitseja seadistada toodet. Rohkem teavet <http://mt.lv/help>
ES. Manual de instrucciones: Conecte el adaptador de alimentación para encender la unidad. Abra 192.168.88.1 en un navegador web para configurar el producto. Más información en <http://mt.lv/help>
IT. Manuale di istruzioni: Collegare l'adattatore di alimentazione per accendere l'unità. Aprire 192.168.88.1 in un browser Web per configurare il prodotto. Maggiori informazioni in <http://mt.lv/help>
LV. Lietošanas instrukcija: Pievienojiet Strāvas adapteri, lai ieslēgtu ierīci. Atvērt 192.168.88.1 ar interneta pārlūku, lai konfigurētu produktu. Plašāka informācija <http://mt.lv/help>
LT. Naudojimosi instrukcija: Prijunkite maitinimo adapterį įjunkite įrenginį. Į interneto naršyklę 192.168.88.1 Atidarykite galite konfigūruoti gaminį. Daugiau informacijos rasite <http://mt.lv/help>
HU. Használati utasítás: Csatlakoztassa a hálózati adaptert a készülék bekapcsolásához. Megnyitása 192.168.88.1 egy webböngészőben beállítani a terméket. Több információ <http://mt.lv/help>
NL. Handleiding: Sluit voedingsadapter aan op het apparaat in te schakelen. Open 192.168.88.1 in een webbrowser om het product te configureren. Meer informatie in <http://mt.lv/help>
PL. Instrukcja obsługi: Podłącz adapter zasilania, aby włączyć urządzenie. Otwórz 192.168.88.1 w przeglądarce internetowej, aby skonfigurować urządzenie. Więcej informacji w <http://mt.lv/help>
PT. Manual de instruções: Conecte o adaptador de alimentação para ligar o aparelho. Abra 192.168.88.1 em um navegador da web para configurar o produto. Mais informações em <http://mt.lv/help>
RO. Instrucțiuni de utilizare: Conectați adaptorul de alimentare pentru a porni aparatul. Deschide 192.168.88.1 într-un browser web pentru a configura produsul. Mai multe informații în <http://mt.lv/help>
SK. Návod na použitie: Pripojte napájací adaptér k zapnutiu prístroja. Otvorte 192.168.88.1 vo webovom prehliadači pre konfiguráciu produktu. Viac informácií nájdete v <http://mt.lv/help>
SI. Navodila: Priključite napajalnik za vklop naprave. Odprite 192.168.88.1 v spletnem brskalniku nastaviti izdelek. Več informacij v <http://mt.lv/help>
FI. Käyttöohje: Kytke virtalähde päälle laitteen. Avaa 192.168.88.1 in selaimen määrittää tuotteen. Lisää tietoa <http://mt.lv/help>
SE. Instruktionsmanual: Anslut nätadaptern för att slå på enheten. Öppna 192.168.88.1 i en webbläsare för att konfigurera produkten. Mer information på <http://mt.lv/help>
NO. Bruksanvisningen: Koble strømadapteren for å slå på enheten. Åpne 192.168.88.1 i en nettleser for å konfigurere produktet. Mer informasjon på <http://mt.lv/help>
GR. εγχειρίδιο οδηγιών: Συνδέστε τον προσαρμογέα τροφοδοσίας για να ενεργοποιήσετε τη μονάδα. Ανοίξτε 192.168.88.1 σε ένα πρόγραμμα περιήγησης στο Web για να διαμορφώσετε το προϊόν. Περισσότερες πληροφορίες στο <http://mt.lv/help>
RU. Руководство по эксплуатации: подключите адаптер питания чтобы включить устройство. Откройте 192.168.88.1 в своем веб-браузере для конфигурации. Дополнительная информация: <http://mt.lv/help>

EAC mark

